

REMARKS

Applicants respectfully request reconsideration and allowance of the present application in view of the following remarks. Claims 33, 37-40, and 42-53 are pending in the application. Independent claim 33, for instance, is directed to a nonwoven composite material comprising a nonwoven material and an extruded film layer adhered to the nonwoven material. The extruded film layer is prepared from a blended composition that includes an unsaturated styrene-isoprene-styrene block copolymer having a melt flow rate that is less than 20 g/10 min., and a compatibilizer that includes a styrene-butadiene-styrene block copolymer having a melt flow rate of about 20 g/10 min. or more. The styrene-isoprene-styrene and styrene-butadiene-styrene block copolymers are present in the blended composition in a ratio of from about 1.5:1 to about 2.5:1.

In the Office Action, all claims were rejected under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement. Specifically, the Office Action states that the specification does not disclose the end point of “about” 2.5:1. Applicants respectfully assert that one of ordinary skill in the art, in view of the prior art and the status of the art, would be reasonably apprised of the scope of the invention. Thus the term of degree “about” is proper in this instance. Indeed, case law has upheld the use of the term “about” in the claims: “The term ‘about’ used to define the area of the lower end of a mold as between 25 to about 45% of the mold entrance was held to be clear, but flexible.” MPEP § 2173.05(b)(A) *quoting Ex parte Eastwood*, 163 USPQ 316 (Bd. App. 1968). In another case, “the court held that a limitation defining the stretch rate of a plastic as ‘exceeding about 10% per second’ is definite

because infringement could clearly be assessed through the use of a stopwatch.”

MPEP § 2173.05(b)(A) *quoting* W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540 (Fed. Cir. 1983). As such, Applicants respectfully request withdrawal of this rejection.

Additionally, independent claim 33 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vaughan et al. (U.S. Patent No. 6,531,544).¹ Vaughan et al. is directed to a hot melt adhesive for bonding lotion coated substrates. Vaughan et al. discloses that SIS and SBS block copolymers may be utilized in the adhesive. The Office Action asserts that Vaughan et al. discloses a first block copolymer with an MFR of less than 20 g/10 min. and a second one greater than 30 g/10 min. Applicants respectfully disagree. Vaughan et al. does **not** disclose the use of a second block copolymer having an MFR of greater than 20 g/10 min. as required by independent claim 33. The Office Action points to the following excerpt of Vaughan et al.:

In the case of block copolymer having a styrene content of greater than 40 wt-% the melt flow rate is typically relatively high, about 30 MFR or greater. **Preferably, the second block copolymer has a styrene content of about 30 wt-% or lower and a melt flow rate of less than 10 g/10 min. More preferably the second block copolymer is sufficiently high in molecular weight such that the solution viscosity, rather than the melt flow rate is reported.** In a preferred embodiment the solution viscosity of the second block copolymer is greater than 5,000 cps for a 25 wt-% solution of polymer and toluene at 20.degree. C., preferably greater than about 10,000 cps, more preferably greater than about 15,000, and most preferably about 20,000 cps or greater. Col. 4, lines 22-35 (emphasis added).

¹ U.S. Patent No. 4,965,122 to Mormon, U.S. Patent No. 6,648,869 to Gillies, U.S. Patent No. 5,665,186 to Datta and U.S. Patent No. 4,965,122 were relied upon for the rejection of dependent claims 47-49. None of the references cure the deficiencies of Vaughan et al. as noted.

Applicants respectfully submit that Vaughan et al. has not disclosed the use of a block copolymer having a melt flow rate of greater than 20 g/10 min. Vaughan et al. has simply disclosed that when the styrene content is greater than 40 wt-%, the melt flow rate is about 30 g/10 min. or greater. This property is **not** desirable for the second block copolymer of Vaughan et al. As such, Vaughan et al. discloses that the second block copolymer has a styrene content of 30 wt-% or less and an MFR of less than 10 g/10 min. Furthermore, even more preferably, the block copolymer has such a low MFR that the solution viscosity is reported rather than the MFR. Thus, Vaughan et al. **teaches away** from a copolymer having a melt flow rate of greater than 20 g/10 min. as required by independent claim 33. Applicants respectfully note that a prima facie case of obviousness is rebutted if the applicant can show that the art in any material respect taught away from the claimed invention.

Furthermore, independent claim 33 also contains the limitation that copolymers are present in the blended composition in a ratio of from 1.5:1 to 2.5:1. The Office Action does not point to any portion of Vaughan et al. as disclosing this limitation, but with respect to dependent claim 42 (claiming the ratio is about 2:1), the Office Action states "it would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to arrive at applicants combination by selecting from the disclosures of Vaughan absent any showing of surprising or unexpected results."

Applicants urge that the claimed ratio of from about 1.5:1 to about 2.5:1 of styrene-isoprene-styrene and styrene-butadiene-styrene block copolymers in the blended composition is not merely an obvious design choice. As noted throughout the specification, while unsaturated block polymers have been frequently used in adhesive-

type applications, the use of such polymers has presented significant manufacturing challenges in extrusion of film and filaments. The stability of the unsaturated block copolymers over the extended period of time required to extrude film and filaments is not predictable and often results in severe manufacturing disturbances. In Applicants' claimed ratios of SIS to SBS, a relatively flat viscosity line² was discovered, which is indicative of thermal stability in the extrusion process. The inventors discovered that the blended SIS and SBS polymer resins demonstrated a relatively constant viscosity, and exhibited an increased ability to withstand degradation in the extrusion process as the ratio of blended styrenic isoprene to styrenic butadiene approached the claimed ratio. Additionally, Applicants respectfully note that the Examiner agreed with Applicants' assertion in the Advisory Action mailed March 13, 2008 stating that "the claims of record do not recite any particular ratio of 'a' to 'b' with the exception of claim 42 which is now allowable over Vaughan." As such, for at least the reasons indicated, Applicants respectfully request withdrawal of this rejection.

Additionally, independent claim 33 was rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent Application No. 2003/0125442 to Maris, et al. optionally in view of U.S. Patent No. 5,681,894 to Williams et al. The Office Action indicates that Maris et al. discloses a block copolymer "a1" having a MFR of less than 20. The Office Action also indicates that Maris et al. discloses a second styrenic block copolymer "a2." Regarding "a2", the Office Action states:

Note paragraph 23 (of Maris,et al.) where it is disclosed that the "a" block copolymers may have a molecular weight as low as 25,000 and since melt flow rate varies inversely with molecular weigh and since 25,000 is a fairly

² See, for example, Fig. 3.

low molecular weight applicants MFR of greater than about 20 would reasonably appear to be inherent.

Furthermore, the Office Action points to Williams et al. for evidence that an SBS copolymer with a molecular weight of 58,000 has a melt flow rate of 23 g/10 min.

First, Applicants respectfully note that Maris, et al. does **not** disclose that the second block copolymer "a2" may have a molecular weight as low as 25,000. Maris, et al. discloses that "the apparent molecular weight of the block copolymer (a) . . . suitably lies within the range of from 25,000 to 1,000,000." ¶ [0023]. As noted in paragraph 19 of Maris et al.:

Component (a) may, and preferably does comprise one or more **further** styrenic block copolymers (a2). In the event one or more block copolymers (a2) are present, then they are comprised in a weight/weight ratio (on all styrenic block copolymers (a)) of (a1) to (a2) of 5:95 to 95:5, preferably 10:90 to 90:10, more preferably of 20:80 to 80:20.

Thus, the disclosure in Maris et al. of a molecular weight as low as 25,000 is directed to a mixture of components a1 and a2 (if a2 is present). As such, Applicants respectfully assert that the Office Action's correlation is improper.

Second, Applicants respectfully assert that the Office Action's conclusions may not establish inherency. The Office Action makes the assumption that melt flow rate is directly proportional to molecular weight. Applicants respectfully submit that this is not the case. The MFR may be affected by numerous properties, including, for instance, whether the copolymer is linear, radial, star-shaped, etc., the respective amounts of each block in the tri-block copolymer, the degree of crosslinking present, etc. Thus, Applicants respectfully submit that the simple "picking" of an SBS copolymer with a molecular weight of 58,000 and MFR of 23 present in the tampon applicator of Williams

et al. does not provide evidence that the mixture disclosed in Maris et al. inherently has a component (a2) that anticipates Applicants claim limitation of “20 g/10 min or more.”

Third, Applicants note that Maris et al. discloses any number of polymers may be utilized as a2: “the further block copolymer (a2) may in principle be any block copolymer comprising at least one poly(vinylaromatic monomer) block and at least one hydrogenated or unhydrogenated poly(conjugated diene) block.” ¶ [0020]. Thus, the disclosure of Maris et al. of an (a) mixture having a molecular weight as low as 25,000 could encompass any (a2) copolymers, not just the SBS copolymers required by Applicants independent claim 33. Furthermore, Applicants have provided evidence that the SBS copolymer disclosed as suitable in Maris et al. comprise melt flow rates no where near Applicants’ claimed minimum of 20 g/10 min. As such, Applicants respectfully note that “inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” MPEP § 2163.07(a). Thus, Applicants respectfully request withdrawal of this rejection.

As such, independent claim 33 patentably defines over the references. Furthermore, Applicants respectfully submit that, at least for the reasons indicated above, the dependent claims 37-40 and 42-53 also patentably define over the reference(s) cited. The patentability of the dependent claims, however, certainly does not hinge on the patentability of the independent claims.

In summary, Applicants respectfully submit that the present application is in complete condition for allowance and favorable action, therefore, is respectfully

Appl. No. 10/749,681
Response dated Aug. 28, 2008
Reply to Office Action of May 28, 2008

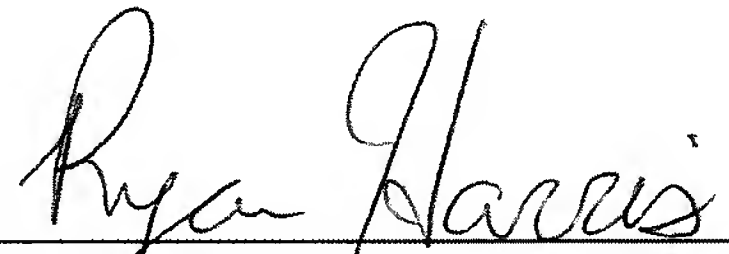
requested. Examiner Mullis is invited and encouraged to telephone the undersigned, however, should any issues remain after consideration of this Response.

Please charge any additional fees required by this Response to Deposit Account No. 04-1403.

Date: 8/28/08

Respectfully requested,

DORITY & MANNING, P.A.



Ryan P. Harris
Registration No. 58,662
P.O. Box 1449
Greenville, SC 29602-1449
Phone: (864) 271-1592
Facsimile: (864) 233-7342